CALVING GROUND SURVEY

SOUTH BAFFIN CARIBOU HERD

JUNE 1976

Northwest Territories Resources, Wildlife & Economic Development

corrected

104-06695/

CALVING GROUND SURVEY

SOUTH BAFFIN CARIBOU HERD

JUNE 1976

R. REDHEAD

E. LAND

N.W.T. WILDLIFE SERVICE

1979

Contents of this paper may be used only with permission of the N.W.T. Wildlife Service.

ABSTRACT

A survey to census the South Baffin caribou herd was done in central Baffin Island between latitudes 68° and 69° 15' N, and longitudes 70° and 74° 15' W. Nine helicopter reconnaissance flights delineated the general boundaries of the calving areas. During transect surveys to the east and west of Dewar Lakes, 185 caribou were seen and information on caribou movement was recorded. The main movement of caribou was to the northwest. The first calves were seen on June 6 west of Dewar Lakes. The high ground north of Fox 3 D.E.W. (Distant Early Warning) site appeared to be the northeastern extremity of the calving ground. Poor weather prevented a complete survey of the area.

TABLE OF CONTENTS

ABSTRACT 1

LIST OF FIGURES 3

LIST OF TABLES 3

INTRODUCTION 4

METHODS 5

RESULTS 12

Reconnaissance Flights 12

Transect Flights 17

Return Trip to Frobisher Bay 17

DISCUSSION 22

RECOMMENDATIONS 23

ACKNOWLEDGEMENTS 25

LITERATURE CITED 26

LIST OF FIGURES

Figure 1. Suspected South Baffin caribou calving grounds ... 8

Figure 2. Reconnaissance flights 9

Figure 3. Area of caribou concentration and area of transects 10

Figure 4. Transect lines and associated sightings 11

Figure 5. General areas of track concentration and direction 20

Figure 6. Track alignment 21

LIST OF TABLES

Table 1. General reconnaissance information 12

Table 2. Aerial survey observations of the South Baffin caribou herd, June 10, 1976 22

INTRODUCTION

Until R.C. and C.E. Elliott documented results of survey work done in 1972 and 1974 (Elliott and Elliott 1974), practically nothing was known of the calving ground of the south Baffin caribou herd. D. Soper explored southern Baffin Island and kept records of his travels between 1924 and 1927. However, his work was of a general nature, and he never entered the calving grounds in central Baffin during the calving period. Since then, and until the Elliotts' time, several uncoordinated surveys have been undertaken, and with the exception of B. Rippin's work (Rippin 1971), have added little to the knowledge of the calving grounds of Canada's largest non-mainland caribou herd. As the search for resources enters areas once inaccessible to exploration, information on the calving grounds and the animals' movements is essential.

METHODS

. We used a Bell 206A helicopter for the survey. Two gas drums 400 meters apart were placed on the ground. The helicopter hovered at 120 meters (agl) directly over one while the observer placed tape on his window where the second appeared. The second observer did the same. This, in theory, would permit the observers to count animals in a 400 meter strip on either side of the helicopter. Flights were made at an altitude of 120 meters, and at speeds of 135 to 150 km/hr. However, because of the rugged terrain and considerable snow cover, it is unlikely that our altitude or pre-determined lines were maintained accurately.

Using the Elliotts' maps for reference, nine reconnaissance flights were made to determine calving areas (Fig. 1 and 2). When the general boundaries had been delineated, transect lines were flown to census the caribou. Because of poor weather conditions, the most accessible areas were censused first (Fig. 3). Lines were designed to end at known or prominent features in the landscape (Fig. 4). The observers noted numbers of caribou and marked their positions on maps (Fig. 4). The

general direction of the animals' movements was also noted by observing tracks in the snow. Such observations, made on our return trip to Frobisher Bay, helped determine the directions from which the animals approached the calving grounds.

Figure 1 Suspected insect bodies caught in calcium gluconate.

Figure 2. Reconnaissance flight.

Figure 3 Areas of candidate communities and areas of interest

RESULTS

Reconnaissance Flights

During reconnaissance flights around Dewar Lakes, we observed the caribou moving in a leisurely manner, often stopping to feed as indicated by the number of feeding craters. Our previous experience with censusing caribou had been in fixed wing aircraft. Our helicopter seemed to cause no more and no less disturbance to the animals' movements than a fixed wing. Few serious escape attempts were noted.

From May 30 to June 6, 1976, nine reconnaissance flights were made (Fig. 2 and Table 1). The general topography of the area was rolling to rugged with 75 to 100% snow cover.

On May 31, three reconnaissance flights were made. Flight No. 1 was to the high plateau region north of Dewar Lake. Prior to a blizzard on June 3, snow cover was between 55 and 100%. Few signs of caribou were seen, but three groups of five, four and seven animals were observed at approximately 68° 35' N, 71° 48' W.

Reconnaissance Flight No. 2 was to the area east of Dewar Lake. No caribou were sighted in this area, and only a few tracks were observed along the river east of Dewar Lake at approximately 58° 34' N, 71° 01' W.

Reconnaissance Flight No. 3 was in the area west of Dewar Lake to Fox Bravo (abandoned D.E.W. site) on the west side of Nadluardjuk Lake. Numerous tracks running north-south were observed west of Dewer Lake. On the west side of the long lake at 68° 35' N, 71° 03' W, there were two adults and a yearling, and on the southwest end, ten more caribou were seen. A group of six adults was observed heading northwest near a small lake approximately 68° 35' N, 72° 25' W. Between this lake and Nadluardjuk Lake, tracks went north-south. On the flight line northeast and southeast of Fox B, north-south and northwest -southeast tracks were observed. A group of six caribou were observed north of Nadluardjuk Lake. Trails were deep, indicating that they had been used by a number of animals.

On June 1, two flights were made. Reconnaissance Flight No. 4 went west to a lake at 68° 37' N, 71° 15' W. Approximately 6 km west of this lake a well defined trail ran northwest. Tracks crossing this trail varied, but trended northwest.

Beyond 68° 51' N, 73° 20' W, caribou trails heading northwest-southeast were seen on the big lake at 68° 56' N, 73° 07' W. There were also many trails descending from the high ground to the southeast and crossing the lake. All along the river system associated with this lake many caribou were sighted. The animals' pelage varied from very light to dark.

No attempt was made to count these caribou. Along the southeast leg of this flight many caribou and tracks were sighted. They were scattered and moving generally in a northwesterly direction.

Reconnaissance Flight No. 5 was made in the area northwest of No. 4. The area surveyed in the upper polygon of this flight was about 50% snow covered.

Numerous tracks were noted at the rapids between two lakes at 68° 51' N, 72° 40' W. Many were also seen near the small lake at 68° 58' N, 73° 14' W and along the southwest leg of the flight. On the southwest side of the long lake at 68° 56' N, 73° 24' W, we saw 22 caribou in four groups.

There was less activity on the northern perimeter than on the western side. On the northern perimeter the general track alignment was east-west, whereas further south, tracks generally were in a northwest-southeast alignment. We saw very few tracks on the northern sector of the return trip after leaving the polygon. At 68° 52' N, 71° 45' W, an adult with two yearlings was observed. Eleven km further east two caribou were seen, and after a further 10 km, we saw two more.

Near the northern limit of the return trip, tracks trended to the northwest-southeast, whereas further south trails were northnorthwest. Tracks followed valleys whenever valleys ran in the general direction of the migration.

On June 6, Reconnaissance Flight No. 6 was made in the expanse of flat, rolling terrain northwest of Fox 3. Snow cover was between 55 and 100%.

Twenty-four to 32 km northwest of Fox 3, trails went east-west. At the lake at 69° 03' N, 72° 31' W there were trails running east-west and northeast-southwest. On the return trip, two females were seen about 24 km from Fox 3, and one female was seen 11 km from Fox 3. Generally all tracks were oriented west and northwest. Again, the animals appeared to be using depressions and valleys for migration routes.

Reconnaissance Flight No. 7 was to the area south of Fox 3. Many tracks were seen heading north on the first east-west vector of the transect. It is possible the animals were moving into the area east of Dewar Lake. There were numerous tracks and two adults near the big lake at 68° 14' N, 71° 13' W. The trails ran north-south across the lake. Many tracks running northwest were seen along the northwest vector and along the

large long lake at 68° 15' N, 71° 15' W. At the north end of this lake were two groups of caribou, one with two females and two yearlings, the other, seven females. From the end of the lake to Fox 3, several groups totalling 36 caribou were seen.

On June 6, two reconnaissance flights were made after 3 days of blizzards. On Flight No. 8 two adults, each with a young of the year, were observed several kilometers west of Fox 3. The caribou seemed to have vacated the area 37 km northwest of Fox B, although there were some tracks on the north side of a lake. Few tracks were seen along the flight line until we were 27 km east of Nadluardjuk Lake. Seven groups of caribou were seen from this point to Fox 3. Craters indicated evidence of feeding.

Reconnaissance Flight No. 9 was an attempt to determine the eastward extent of the caribou distribution. Twenty-seven km from the river north of Dewar Lakes on the west-east vector, a female and new calf were sighted. Just west of the river system at 68° 45' N, 70° 30' W, we saw numerous tracks and evidence of feeding on exposed hilltops. On both sides of the lake at 68° 44' N, 70° 30' W, and along the river valley northeast to a point near a small lake where the flight swung west and then south, many tracks and 24 caribou were observed. The tracks

showed that most caribou sighted were, or had been feeding in this area. An undetermined number of caribou and tracks were observed along the river system at 68° 36' N, 70° 46' W on the south vector of the flight. In addition, seven females were seen along the northwest side of Dewar Lake.

Transect Flights

On June 10, after being weathered in for 3 days, we flew 11 transects (Fig. 4). Numbers 1 to 8 were in a west-northwest - east-southeast direction west of Dewar Lake, and A, B and C ran northeast-southwest. Transect D was not flown because of poor weather. We counted 185 caribou and noted their positions. Results are detailed in Table 2.

Weather conditions were: visibility 24 km, temperature 5 - 7° C, winds northeast at 15 km/hr with a chill factor of -10° C. Transects 1 - 4 were flown in 1:45 hours, 4 - 8 in 1:50 hours and A - C in 1:15 hours. (Table 2).

Return Trip to Frobisher Bay

The return trip to Frobisher Bay provided some valuable information regarding caribou movements in the area immediately north of Nettiling Lake. Although no caribou were seen, many sets of tracks and heavily worn paths in the snow were observed.

Figure 5

General area of
Creek concentration
and direction

North of the Hantzsch River system, we saw many tracks and paths running generally northnorthwest-southsoutheast (Fig. 6, A). This indicated considerable movement of caribou from the direction of Pangnirtung toward the Longstaff Bluff-Dewar Lake area. Prior to this, and south of Dewar Lake, the tracks generally were in a north-south configuration.

After this, few tracks were seen until approximately 40 km north of Mirage Bay (Fig. 6, B), where we saw some running north-south. Tracks were observed continuously from this point until we changed course at Mirage Bay. At Niko Island where we landed to refuel (Fig. 6, C), we observed tracks 3 to 4 days old heading northnorthwest.

Several sets of tracks were seen on the Koukdjuak Plains about two-thirds of the way down Nettiling Lake from Niko Island (Fig. 6, D). These tracks were in a northeast-southeast direction.

Lease assignment.

DISCUSSION

There were few signs of caribou in the high plateau region north of Fox 3, and since those that were there, were moving from east to west, we suggest that this region marks the northeastern extremity of the calving grounds.

On May 31 there were few signs of caribou east of Dewar Lake but on June 6 some animals were observed in the area. However, it did not appear that this was an important calving area this year.

On June 2, during reconnaissance flights to the south, southeast, and southwest of Fox 3 (68^{o} 38' N, 71^{o} 13' W), we saw many tracks leading north and northwest which suggested that all females had not arrived at the calving area by that time. Some animals had no antlers, other were still carrying one and some had both.

On reconnaissance flights west of Fox B on Nadluardjuk Lake, many tracks were seen leading north and northwest. The number of tracks declined east of Fox B.

On reconnaissance flights to the northwest, tracks in the new snow indicated that caribou were still migrating northwest through this area.

We concluded from the many caribou seen and the well beaten trails that the main movement of animals was to the northwest, between Fox Bravo and Fox 3, with the centre of the movement being nearer Fox 3.

On June 6 new calves were seen to the west, northwest and east of Fox 3. Judging from their ability to move through the snow with the female, they appeared to be at least a day old.

RECOMMENDATIONS

1. The disturbance to the caribou by the presence of buildings and other installations at Dewar Lakes appears minimal, but Inuit working at the site did take advantage of the proximity of the caribou, and are reported to have shot some. Apparently meat was wasted. Protection should be given to the area during calving time. The suggested dates from protection are May 15 to July 15.

2. All or part of the suspected calving area should be surveyed next year, beginning at Longstaff Bluff. The area we were unable to survey from Dewar Lakes should be given priority.

3. It is difficult to supply fuel to this area on short notice. If further surveys are done, fuel could be shipped to Longstaff Bluff by sea lift, and then airlifted to Dewar Lakes.

ACKNOWLEDGEMENTS

The authors wish to thank the station chief and staff of Dewar Lakes D.E.W. site who provided logistical support for the survey. Thanks also to Randy Brading for his faultless flying, and to Jonny Graves for her editorial advice.

LITERATURE CITED

Elliott, R.C. and C.E. Elliott. 1974. Observation of the distribution and migration of caribou on southern Baffin Island, July 4 - August 8, 1974. N.W.T. Wildlife Service unpublished report.

Redhead, R.E. 1975. Baffin Island caribou survey progress report. Tagging in the Koukdjuak River, August 10 and 11, 1974 and July 10 to 27, 1975. N.W.T. Wildlife Service unpublished report.

Redhead, R.E. 1976. Caribou survey report on 1976 tagging program. N.W.T. Wildlife Service unpublished report.

Rippin, B. 1971. Calving ground surveys. N.W.T. Wildlife Service unpublished report.